Chapter 1

Introduction and Overview

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1.0 Chapter Overview

This chapter provides an overview of the State Wildlife Action Plan Update (SWAP or Plan). It includes discussion on the background and purpose of the plan, how this update differs from the first version completed in 2005, and reviews the key components.

1.1 Background and Purpose

Washington's State Wildlife Action Plan is a comprehensive plan for conserving the state's fish and wildlife and the natural habitats on which they depend. It is part of a nationwide effort by all 50 states and five U.S. territories to develop conservation action plans and participate in the State and Tribal Wildlife Grants (SWG) Program. The purpose of the SWG Program is to support state actions that broadly benefit wildlife and habitats, but particularly "Species of Greatest Conservation Need (SGCN)" as identified by each individual state.

Washington's first plan was completed in 2005 and was called the Comprehensive Wildlife Conservation Strategy or CWCS. The CWCS has since become known as the State Wildlife Action Plan. The United States Fish and Wildlife Service (USFWS) requires that these plans be updated every 10 years in order to remain eligible for State Wildlife Grants funding. This document represents Washington's 2015 update. It assesses the status of the state's wildlife and habitats, identifies key problems they face, and outlines the actions needed to conserve them over the long term. A guiding principle of the SWAP planning process is to identify actions needed to conserve wildlife and their habitats before species become too rare and restoration efforts too costly. Our intent is that the SWAP serves to inform conservation priorities and actions statewide, and provide tools and informational resources to support collaborative conservation initiatives across a range of organizations and entities.

1.2 The Importance of State Wildlife Grants

Over the past decade the support provided by the State and Tribal Wildlife Grant Program (SWG), along with matching funds generally provided by Washington's Personalized License Plate program, has resulted in significant conservation success. The work funded by this program has resulted in improved conservation status for species at risk, increased our knowledge of lesser known species, and improved the availability of data and our overall capacity for effective conservation. A few highlights are provided below.

Greater Sage-grouse

The state threatened Greater Sage-grouse was historically distributed throughout the Columbia Plateau and Okanogan Valley. Populations in Washington declined more than 50 percent from 1970 to 2012, down to a current range representing about eight percent of the historical. With the support of SWGs, WDFW staff conduct population monitoring at breeding grounds each year and conducts ongoing searches for new breeding areas to inform conservation work. In addition, WDFW and USFWS initiated a project to reintroduce Greater Sage-grouse to the Swanson Lakes Wildlife area and adjacent lands in Lincoln County in 2008, and recent monitoring efforts indicate that this population has been successfully established.

Fisher
State Wildlife Grant funding has also contributed to recovery efforts of another SGCN and state listed species - the Fisher. Historical over-trapping caused the extirpation of Fishers in Washington by the mid-1900s. To restore the species, WDFW and several partners initiated a reintroduction effort to capture and translocate Fishers from British Columbia to Washington. A total of 90 Fishers were released at 21 locations in the Olympic Recovery Zone from 2008 to 2010. Follow up monitoring indicates that reintroductions have been successful with widespread distribution and reproduction detected, although is it not yet known whether or not the population is self-sustaining. Using SWG funds, reintroduction efforts are expanding to include the Cascade Mountain Range in 2015 so that we might reach our ultimate goal of recovery and de-listing of the species in our state.

Bald Eagle
WDFW has a long history of involvement in Bald Eagle research, surveys, conservation and management. During the early period of SWG funding WDFW developed and approved hundreds of site-specific management plans throughout the state, primarily in western Washington. Following the recovery of the Bald Eagle population in Washington WDFW began to streamline its involvement in eagle management to facilitate a necessary shift to higher priority species conservation issues. Both prior to and during streamlining, WDFW conducted surveys, participated in monitoring of nest sites, and verified reports of new nests from the public and other entities. WDFW maintains the statewide Bald Eagle database and as a consequence our data management effort has been substantial: pre-survey reviews; coordination with other agencies, municipalities and organizations; interacting with the public; responding to data requests; and updating and maintaining a database for all known territories in Washington.

Western Pond Turtle
The Western Pond Turtle is a SGCN species that was listed as state endangered in 1993. In the late 1990s, less than 200 Western Pond Turtles remained at two locations in Washington. Over the past two decades, WDFW and its conservation partners have been working toward recovery of this species including adding four new recovery sites and increasing the number of turtles to approximately 800. Towards these efforts, WDFW has used SWG funding to help maintain nesting habitat, to monitor population size and health at all six recovery sites, and to monitor nesting females to protect nests from predators and collect eggs for head-starting programs at Woodland Park Zoo and Oregon Zoo. Recovery of the species in Washington has recently been impacted by disease. Diseased turtles have been found at all six recovery sites. Of the turtles examined at each site, 23-49% showed some evidence of shell disease (*e.g.,* ulcerative shell disease). SWG funding has supported disease investigation including pathology, demography and ecology, as well as how to proceed in effectively treating diseased turtles.

Taylor's Checkerspot
The decline of the state and federally endangered Taylor's Checkerspot butterfly in Washington has been largely a result of the loss of prairie and grassland habitats. State Wildlife Grants helped to fund WDFW's recovery program, which involves propagation and reintroduction to establish new populations on remaining and restored Puget Sound prairies. Two sites have received multiple releases of Taylor's Checkerspot caterpillars and/or adult butterflies and these releases combined with intensive and continued habitat management have met with early success. WDFW is also involved in a cooperative genetics research project, research into reproductive habitat and characterization of conditions, and habitat protection.

Marbled Murrelet
The Marbled Murrelet is a SGCN listed as state and federally threatened since the early 1990's, primarily due to declining populations and loss of habitat from commercial timber harvest. Using mapping tools and field data, WDFW evaluates and confirms "occupied" habitat, and delineates the spatial boundaries of occupied

habitat and potential habitat for the purpose of surveys. A comparatively higher level of protection is afforded occupied habitat than other categories of forest under the Washington State Forest Practices Rules. WDFW also provides technical assistance to other agencies and organizations regarding proposed actions that may affect Marbled Murrelet habitat. Technical assistance has included survey training and habitat identification workshops, survey consultation, field surveys and investigations, evaluation of information relating to forest practices applications, and landscape planning initiatives. For example, WDFW participated in discussions related to placement of the proposed Radar Ridge wind energy facility, and in 2015 WDFW assessed and designated baseline habitat for a joint State Cooperative Habitat Enhancement Agreement/USFWS Safe Harbor Agreement that will enhance conservation of habitat in a municipal watershed. In addition, WDFW participated in a working group that developed a long-term strategy that has helped to inform conservation of the Marbled Murrelet on lands managed by the Washington Department of Natural Resources.

Golden Eagle

Although less attention was directed to this species than to the Bald Eagle in the last decade, WDFW has done surveys and conducted field research. Staff time was also devoted to design, coordination and implementation of aerial surveys at known breeding territories. WDFW maintains a comprehensive Golden Eagle database; data management effort have included coordination with field biologists and staff with other agencies, responding to data requests, and updating and maintaining the database. In addition, substantial progress was made on development of a status report.

Oregon Spotted Frog

The Oregon Spotted Frog is a SGCN species that was listed as state endangered in 1997 and federally threatened in 2014. The primary threat to this aquatic species is the loss, alteration and degradation of wetland habitats. Currently, the species persists in only six Washington watersheds. With the support of SWG funding, WDFW has conducted inventories successful in finding new populations, monitored known populations to understand trends, conducted research projects, formed the Washington Oregon Spotted Frog Working Group to collaborate on inventory, monitoring and recovery efforts with conservation partners, drafted the state recovery plan, led a reintroduction effort and worked on habitat protection and enhancement. Habitat enhancement is particularly important for this species because the frogs require oviposition sites with short vegetation in seasonally flooded wetland shallows where eggs get full sun exposure. Without management such as mowing, haying or cattle grazing, most sites are quickly overgrown by invasive reed canary grass or tall native vegetation such as willow or hardhack.

Pygmy Rabbit

The state endangered Pygmy Rabbit is the smallest rabbit in North America. The Washington population has been isolated from the remainder of the species' western U.S. range for at least 10,000 years and therefore was federally listed as an endangered distinct population segment. Between 1997 and 2001, five of the six known populations disappeared in central Washington. Large-scale conversion and fragmentation of native shrub-state habitats likely played a primary role in the long-term decline of the species, along with other factors such as predation, disease and loss of genetic diversity. State Wildlife Grants funding has helped to support a captive breeding program in the past and since 2011 it helps support the management of an on-site breeding and reintroduction program within the historic range of the species.. Thus far, young rabbits have been released to two reintroduction sites and each year more rabbits are produced for recovery efforts.

Habitat Protection, Acquisition and Management

Protecting and managing habitats is key to SGCN conservation efforts and it provides a way to benefit a number of SGCN species at once. With the support of SWG, WDFW provides technical assistance to a variety of entities to promote more effective habitat management practices. One example of this work is the

assistance provided to the Arid Lands Initiative (ALI) to finalize spatial priorities for conservation targets in the Columbia Plateau. WDFW used these results to develop priority areas for a Candidate Conservation Agreement with Assurances for Greater Sage-grouse, and to focus priorities for the Agricultural Conservation Easement Incentives Program of the Farm Bill.

Land acquisition is a key tool for habitat conservation as well. For instance, in 2013 and 2014 WDFW coordinated the development of critical components of proposals for acquisition and conservation easements in shrub-steppe in the Columbia Plateau which benefits species such as Greater Sage-grouse, Columbian Sharp-tailed Grouse, Pygmy Rabbit, black- and white-tailed Jackrabbits, American Badger, Sage Thrasher, Ferruginous Hawk, Northern Leopold Frog, and Pygmy Short-horned Lizard . Proposals for acquisitions of South Puget Sound prairies and oak woodlands focused on land that assist recovery for Mazama Pocket Gophers, Streaked Horned Larks, Taylor's Checkerspot, Pacific Blue Butterfly, Valley Silverspot, Oregon Vesper Sparrow, and Western Gray Squirrels (see Chapter 2 for more information on land acquisition work).

Data Management Capacity

State Wildlife Grants have also been critical to improving our data management capacity. High quality data is critical to making good conservation decisions. In support of SWAP implementation, a GIS prototype tool was developed to generate species range maps for 28 priority SGCN. This tool provides an automated process and data management framework for developing species range maps, based on the most current and reliable location data available. Data sources include eBird, WDFW's Wildlife Survey Data Management System, Priority Habitats and Species (PHS), GeoBob, and the Natural Resource Information System. Species were then cross-walked to the ecological systems (National Vegetation Community Classification) to generate a modeled distribution map for each SGCN species within its predicted range.

This tool was improved to map additional SGCN for the 2015 State Wildlife Action Plan revision (see Appendix B for more information on the methodology and to view maps). Associating species with ecological systems is foundational work that is intended to be used in a variety of ways for species conservation. This dataset will allow staff and conservation partners to better monitor species and their habitats as well to identify, coordinate, and prioritize conservation actions and will allow us to better track the success of our actions.

1.3 Guiding Principles

WDFW established an interagency team early in the action plan revision process to ensure that the revised plan would be useful and relevant across the agency and to our conservation partners. The interagency team reviewed the strengths and weaknesses of the 2005 CWCS as a first order of business, identifying what worked well, what aspects could be improved, and areas that needed significant updating. The team determined that it would be helpful at the start of the revision process to outline the intended use of the product, in the interests of developing a SWAP that would deliver maximum benefit.

The team established a set of guiding principles as a way to be explicit about our goals for the State Wildlife Action Plan (see Figure 1). After internal review, these principles were then introduced to and approved by the Wildlife Diversity Advisory Council, a committee convened by WDFW to advise the agency on a number of issues related to managing at risk species in the state. More information about the engagement of the Wildlife Diversity Advisory Council can be found in Appendix D – Outreach.

Figure 1-1

Guiding Principles
2015 State Wildlife Action Plan

1. Design the State Wildlife Action Plan to guide WDFW conservation planning. It should also serve to inform and benefit conservation partners to advance conservation priorities.

2. Focus Species of Greatest Conservation Need on *biological* conservation needs; address *socioeconomic* factors in prioritization.

3. Recognize the importance of ecosystem based management in accomplishing conservation.

4. Include Cross Program expertise and perspective. The SWAP will aim for a final product that is consistent and relevant to agency values.

5. Engage conservation partners. A goal is to use the SWAP to facilitate collaborative conservation, including cross-state and regional approaches.

6. Create a document that is concise, readable, informative and available to a wide range of publics and stakeholders.

7. Be Efficient. Conduct the SWAP revision in a manner that matches available resources for planning and implementation.

1.4 Audience

One of the most important outcomes of the interagency team's review of the CWCS, which is codified in the guiding principles, was to clarify that the primary audience for the State Wildlife Action Plan is WDFW. The previous CWCS was developed and written to address a broadly defined conservation community across Washington. While we fully recognize that conservation is a collaborative endeavor, and that engaging conservation partners is critical, we learned that implementation becomes more difficult if the primary audience or owner of the plan is not clearly identified. For these reasons, and because we wanted to advance implementation and use of the products developed through the SWAP, we were explicit that WDFW is the primary audience, with the recognition that the document will also be useful to the full breadth of our conservation partners. Chapter 7 - Implementation, discusses opportunities for others outside the agency to benefit from a number of the products created through the SWAP. It is our hope that these products will advance our collective understanding of conservation needs across the state, and contribute to our effectiveness at addressing them.

1.5 A Word about Prioritization

Actions to conserve the 268 Species of Greatest Conservation Need and 30 Ecological Systems of Concern outlined in this document include population assessments and inventory, habitat protection, acquisition, and restoration. It is clear that WDFW does not have the financial capacity to adequately address all of these needs, and that we must prioritize where to invest; in which species, landscapes, or conservation tools. We also recognize that the criteria by which we prioritize investment will change depending on funding source, the specific conservation partners involved, or other factors. Consequently, WDFW has adopted a flexible approach to prioritization in the SWAP, one that allows the agency to prioritize conservation activity in

response to changes in internal priorities, organizational capacity, targeted funding opportunities, or the availability of other resources. In 2014, we developed a prioritization matrix (see Chapter 7 and also Appendix E), which includes a range of factors and criteria for determining priority for implementation. Our SGCN list is larger than in 2005, in part because of an explicit recognition that, while the agency doesn't currently have capacity to adequately fund the conservation actions for all SGCN identified, other resources may become available or conservation partners may be able to address those needs. Thus, inclusion of a species as an SGCN or inclusion of an ecological system as an ESOC doesn't necessarily imply WDFW will initiate action; rather it shows there is a need for conservation action. We will work collaboratively with our partners to address unmet needs as capacity allows.

1.6 Eight Essential Elements

Congress established eight required elements to be addressed for approval of the original CWCS. The USFWS subsequently developed policy regarding what constitutes a major or a minor revision to the plan. During the Washington Department of Fish and Wildlife's (WDFW) required review of the 2005 CWCS, it was determined that sufficient changes to the plan (including changes to Washington's Species of Greatest Conservation Need list) would be proposed, thus meeting the definition for a major revision. This required WDFW to ensure that all eight elements were addressed during the review and revision process.

Element 1	Identify distribution, abundance and status of species of greatest conservation need
Element 2	Identify condition of key habitat types essential to the conservation of SGCN
Element 3	Identify problems and threats that affect SGCN and their habitats
Element 4	Determine and prioritize actions to conserve SGCN and their habitats
Element 5	Provide for periodic monitoring and adaptive management of SGCN and their habitats
Element 6	Provide for review and revision of the State Wildlife Action Plan
Element 7	Coordinate development and revision with appropriate federal, state, local agencies and tribes
Element 8	Provide for necessary public involvement in the development, revision, and implementation of the SWAP

1.7 Engaging Conservation Partners

We solicited input and feedback from our conservation partners early in the SWAP update process, through email announcements, surveys, workshops, and webinars. Our interest was to determine how the SWAP could be developed so it can contribute to the shared goals of conservation partners and others. Appendix D includes a full discussion of our outreach plan, specific activities, and results.

1.8 How the 2015 SWAP Differs from the 2005 CWCS

While we drew extensively from the CWCS, we recognized that the last ten years have brought significant changes in data availability and methodologies, as well as shifts in the landscape of conservation partners and priorities. These new developments, combined with our interests in developing a document more clearly focused on implementation, made it clear we needed a significantly updated document, rather than an amended 2005 CWCS. However, in doing so we also committed to using as much information as possible from the CWCS.

Another notable shift in the last ten years has been a rapidly growing body of research focused on understanding the impacts that a changing climate may have on fish and wildlife distribution and health. Chapter 5 includes a full discussion of how climate change is expected to affect SGCN and the habitats on

which they depend. Appendix C includes additional material to support the climate change information presented in Chapter 5. The table below highlights key differences between the two documents.

Table 1-1: Summary of Changes from 2005

Major Change	Rationale	Implications for the 2015 SWAP
SGCN criteria The criteria for inclusion as a Species of Greatest Conservation Need was modified from 2005. The criteria from 2005 included both biological and socioeconomic considerations. Modifications included focusing on biological conservation need and using NatureServe ranks as a criterion, based in part on the guidance document, "Best Practices for State Wildlife Action Plans" produced by AFWA[1].	**Increased transparency and use-ability** The criteria used in 2005 was complicated and proved difficult to explain to a non-technical audience. We simplified the criteria to focus on biological conservation need, with the understanding that socioeconomic needs would be addressed in prioritization processes. We also included NatureServe ranks as recommended in the AFWA Association of Fish and Wildlife Agencies Best Practices guide.	**Robust and updated SGCN list** The SGCN list is almost 30 percent larger than in 2005 (from 186 to 268). This number reflects changes in our criteria and the inclusion of updated information and data for all species. The updated criteria resulted in an increased number of invertebrates on the SGCN list – from 42 in 2005 to 95 in 2015. A comparison between 2005 and 2015 is provided in Chapter 3, as well as a list of the species which have been dropped since 2005.
Habitat classification Habitats were classified and described differently than the 2005 CWCS, which relied on a Washington-specific classification system. The SWAP Update uses the National Vegetation Classification System (NVC) to represent habitat needs for SGCN. This change resulted in significant changes to the 2005 CWCS.	**Standardized and mappable habitat classification** Ecological systems (part of the NVC) are mapped across the west. Using ecological systems to describe and classify SGCN habitat provides an important spatial component to the SWAP, allowing us to spatially translate conservation priorities to specific landscapes.	**Habitats of Greatest Conservation Need** This new term encompasses both ecological systems considered imperiled and those ecological systems particularly important to SGCN. Chapter 4 describes the methodology for identification, the condition of these habitats, important features for the SGCN dependent on them and key stressors and conservation actions needed.
Defining stressors and actions The terminology for describing and defining stressors and actions has changed from 2005. Based in part on the Best Practices for State Wildlife Plans document, the 2015 SWAP update adopts a nationally accepted lexicon for defining threats and actions.	**Consistency and relevance** We selected the Wildlife TRACS[2] system of classification which was not available in 2005. TRACS is the tracking and reporting system for conservation and related actions funded by the USFWS. A nationally recognized classification scheme will help facilitate our ability to identify and characterize projects for State Wildlife Grants Funding.	**New categories for stressors and actions** When stressors and actions are discussed in the SWAP, they are described by TRACS categories. In addition to helping to identify and track projects for State Wildlife Grants, this change will help provide consistency and to synthesize data.

[1] Association of Fish & Wildlife Agencies. November, 2012. Best Practices for State Wildlife Action Plans, Voluntary Guidance for States for Revision and Implementation.

[2] U.S. Fish & Wildlife Service. (2015). Wildlife Tracking and Reporting on Actions for the Conservation of Species (Version 1.0) [Web application software]. Retrieved from https://tracs.fws.gov

Major Change	Rationale	Implications for the 2015 SWAP
Inclusion of range maps Potential range and habitat distribution maps are included for a subset of the SGCN for which we had sufficient data.	**Conservation Planning Tool** The CWCS did not include spatial representation of range and distribution for SGCN. These potential range and habitat distribution are intended to aid in conservation planning activities for SGCN.	**Potential range maps for over 80 SGCN** Appendix B includes potential range and habitat distribution maps for selected SGCN. These maps are considered working drafts as we continue to refine the methodology used to generate them.
Agency-wide participation Increased engagement by the WDFW Fish and Habitat programs resulted in a more robust SGCN fish and invertebrate list and also ensured relevancy to the entire agency.	**Greater transparency and improved process** The WDFW Conservation Initiative, adopted in 2012, emphasizes the importance of cross-program engagement in key initiatives.	**More engagement in SWAP across WDFW** There is greater awareness of the SWAP across the agency, and increased opportunities for implementation.
Climate change Climate change has been integrated throughout the 2015 SWAP Update. Other than being identified as a threat, climate change was not discussed in the 2005 CWCS.	**Emerging Issue – Increased availability of data** The last ten years have brought a growing recognition of the emerging threat that climate change poses to our fish and wildlife. We used the 2015 SWAP Update as an opportunity to build our understanding regarding specific risks and vulnerabilities.	**Climate vulnerability incorporated into SWAP** Chapter 5 discusses projected impacts and introduces a list of species and habitats most at risk from climate change. Appendix C includes the full assessment of climate vulnerability for all SGCN. Climate change impacts have also been integrated into Appendix A – Species Fact Sheets, and Chapter 4 – Habitats.

1.9 Document Overview

Chapter 2 – State Overview
Chapter 2 provides context for how the SWAP fits into Washington's conservation landscape. It describes the biological and physiographical characteristics of Washington and discusses the distribution of fish and wildlife resources across the state. It also provides an overview of the primary stressors and challenges for fish and wildlife, outlines the state framework for addressing them and indicates specific areas in which the SWAP provides supporting information or resources.

Chapter 3 – Species of Greatest Conservation Need
Chapter 3 reviews the Species of Greatest Conservation Need. It describes the criteria and process used to identify the revised list and describes differences from 2005, including a list of species that dropped off the list and why. Summaries of the conservation status and concerns for all of the SGCN are presented in taxa groups; mammals, birds, reptiles and amphibians, fish, and invertebrates. Each of the SGCN also has an associated fact sheet which provides more detail on habitat needs, distribution, and conservation threats and actions. These fact sheets can be found in Appendix A.

Chapter 4 – Habitats of Greatest Conservation Need
Chapter 4 discusses Habitats of Greatest Conservation Need, which are defined for the purposes of the SWAP as ecological systems of concern (those most imperiled from a conservation perspective), as well as those ecological systems particularly important for SGCN. We have used the National Vegetation Classification as a way to describe SGCN habitats, using two levels of the NVC hierarchy; vegetation formations and ecological systems. We describes threats generally for each of the 16 vegetation formations in the state and then focus on those ecological systems considered most imperiled (Ecological Systems of Concern) and/or most important for fish and wildlife. Fact sheets for each of the ecological systems of concern include a description, lists of SGCN for which this is a crucial habitat, key stressors, and actions needed.

Chapter 5 – Climate Change: Which species and habitats are most at risk?
In Chapter 5 we provide a summary of how climate change may affect the SGCN and the habitats on which they depend. We also highlight the summary findings from an analysis assessing the relative vulnerability to climate change of all of our SGCN, and our ecological systems of concern. From this analysis we identified a Climate Watch List – those species most at risk because of climate change effects. These species and the reasons why they are more sensitive to climatic change are outlined in Chapter 5. Additional detail from this analysis is provided in Appendix C.

Chapter 6 – Monitoring and Adaptive Management
In this chapter we discuss the agency's commitment to monitoring and adaptive management and profile a couple of examples. We focus on population assessment monitoring, and compliance or effectiveness monitoring.

Chapter 7 – Implementation
Chapter 7 considers specific products, either prepared in support of the SWAP or part of the SWAP itself, and discusses how they can inform activities and initiatives, both internal and external to the agency. We also outline future needs to fully implement the SWAP.

Appendix A – SGCN Fact Sheets
Appendix A includes fact sheets for each SGCN. These fact sheets describe conservation status and concern, abundance and distribution, habitat needs and key stressors and actions needed.
A1 – Fact sheets for SGCN Mammals
A2 – Fact sheets for SGCN Birds
A3 – Fact sheets for SGCN Reptiles and Amphibians
A4 – Fact sheets for SGCN Fishes
A5 – Fact sheets for SGCN Invertebrates

Appendix B – Range and Potential Habitat Distribution Maps
Range and potential habitat distribution maps for selected SGCN are presented in Appendix B, as well as a description of methodology and considerations for use.

Appendix C – Climate Change Background Information
This appendix includes supporting information regarding the climate change findings presented in Chapter 5.

Appendix D – Outreach
Appendix D contains a description of public and stakeholder outreach in the development of the SWAP.

Appendix E – Prioritization Matrix
This appendix is a matrix that allows for the prioritization of conservation actions.